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What Peace Can Mean To American Farmers

Post-War Agriculture and Employment

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U. S. DEPARTMENT OF AGRICULTURE

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FOREWORD

The Department of Agriculture has had an Interbureau Committee and nine regional committees working on post-war programs ever since the war began. It became apparent very early that the work of these committees could be made more effective if they had at their disposal the results of a rather careful analysis of the general framework of economic relations to which post-war planning and programming must be related. The present report is an attempt to meet a part of that need. It is also hoped that these materials will be helpful to anyone interested in the post-war problems of agriculture.

Many members of the Department staff have made important contributions to this work. It was done under the leadership of Bushrod W. Allin, with special assistance from J. P. Cavin, O. C. Stine, Ronald L. Mighell, F. F. Elliott, James G. Maddox, O. V. Wells, Willard W. Cochrane, and Robert H. Masucci.

CLAUDE R. WICKARD,
Secretary of Agriculture.

Washington, D. C. Issued May 1945

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What Peace Can Mean to American Farmers

Post-War Agriculture and Employment

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INTRODUCTION

Farm leaders and farm people have worked hard for more than 3 years to expand and adjust agricultural production to meet the exacting demands of war. Farmers have produced more food and feed than ever before. Now they are justly concerned with their place or role in the post-war world, for ominous signs may be seen on the horizon. Underlying this apprehension of the future is the deep awareness that agriculture is not only more productive but is also more prosperous now than at any previous time. The war restored agricultural prosperity, it raised farm incomes, and it renewed in farm people a feeling of pride in their work.

Why is it that farmers in the United States are most prosperous in wartime? The answer is to be found in the heavy demand for farm products created through wartime action by the Federal Government and by Allied Governments. This increased demand results from (1) increased consumption of food by people who in wartime have more employment and therefore larger incomes with which they can make greater purchases of food, (2) higher per capita consumption of food by persons in the armed forces than in civilian life, (3) wartime dislocation of agriculture and trade in other parts of the world, with the consequent decline in foreign agricultural production and trade, and (4) increased shipment of food supplies to the allies and to war-devastated countries—especially to England and to Russia.

Unless definite steps are taken to prevent it, peace may mean a substantial decrease in demand for agricultural commodities. Hence, it follows that unless the Nation is looking forward to a post-war world in which its farmers are much less prosperous than during the war period, positive and practical substitutes for the war-induced demand for agricultural products must be found.

The country could adopt a fatalistic attitude and accept without a struggle the argument that peacetime demands for the products of its farms must fall precipitately below the wartime level. In effect, that is what happened after World War I. But if that happens again the people should understand thoroughly the inevitable consequences of such a policy—a depressed agriculture. Perhaps some farmers would prefer that choice to the alternatives that will present themselves. But most farmers want to produce at maximum capacity, and to enjoy high incomes and all that those incomes will provide.

During World War II the United States has demonstrated a productive power undreamed of only a few short years ago. More than 11 million men and women, the cream of the laboring force, have been placed in military service, but at the same time production has been increased tremendously. Despite the inconveniences caused by rationing, the material level of living at home for most people has been maintained and even raised while vast quantities of food, equipment, and armaments were being shipped abroad. In short, the Nation has not merely undertaken to become the arsenal of democracy, it has achieved that seemingly impossible objective.

When peace comes, the country will face a situation in which millions of men now in military service or in war industries will seek employment in peacetime production—a situation in which their efforts combined with great resources in raw materials and capital equipment can be devoted primarily to the production of goods for civilian use. Yet many fear this prospect as though a great plague were about to descend upon them. Signs of an early peace send workers scurrying for more secure jobs and set businessmen to worrying over their investments—all this in spite of the fact that with the cessation of war there will be enough men, machines, and raw materials to improve the national well-being beyond any previous standards. The fear is that the people cannot consume what they can produce—that there will not be a market for the things that the men and the machines can make.

In wartime the common interest in national survival is so great that it overshadows the conflicting group interests that are so dominant in peacetime. Public spending for war causes no nightmares comparable with the prospects of Nazi domination, and the national debt can be increased more in 1 year than in the previous 150 years without putting "budget balancing" in the headlines. One condition, therefore, that will need to prevail after the war, if the Nation is to maintain and expand its wartime prosperity, is the recognition on the part of all groups of their interest in working as cooperatively for one or more peacetime objectives as they worked during wartime to defeat the common enemy. That it is possible during peacetime for group interests to be harnessed to the job of serving the general welfare was demonstrated in 1933, when the economic security of all groups was threatened. In the worst days of the depression special interests merged into the common interest; farm people, city people, low-income groups, middle-income groups, and the very rich, all worked together to place a floor under the crumbling economic

structure. Both in this instance and during wartime, however, the common interest was forged to accomplish negative purposes—to avoid economic collapse and to ward off defeat.

It has been proved beyond all doubt that Americans can work together, both as a nation and with other nations, to stave off military defeat and to win a military victory. Can as much be done to create a world of peace and prosperity? The answer will be given by actions in the future. Before the country, in the post-war years, stands a challenge which will tax its abilities and beliefs as much as do the present-day attacks of Nazis and Japs—a challenge to create a world in which men and women can live in peace and comfort—a world in which vast resources of men, machines, and materials can be used to provide throughout the world history's highest level of living. Various levels of prosperity are attainable. Each level, as well as the means by which it could be achieved, has a different meaning to farmers.

If farm people are to help develop constructive programs in the post-war period, they must understand their direct interest in national and international economic decisions which of necessity will be made at the close of this war—and understand the more basic relations of agricultural affairs to over-all national and international policies. The purpose of this analysis is to provide an aid to such understanding by describing the economic conditions likely to be associated with various degrees of employment and unemployment in the post-war period, and to indicate the most probable effect of these conditions on the price-and-income position of agriculture. **The estimates presented are not forecasts of what will happen after the war, but are intended to illustrate what is most probable under stated alternative assumptions with respect to employment, price levels, productivity of labor, and related factors.** The Bureau of Agricultural Economics is the source of statistical data and estimates used in this report.

IF THERE IS FULL EMPLOYMENT

Of late, most discussions of post-war problems set full employment as a goal. This goal was adopted as the major assumption of the present analysis because it was believed that a reasonably accurate appraisal of possible consequences for agriculture of such an admittedly favorable post-war condition would provide a good basis for judging the effects of less desirable circumstances.

There are many technical definitions of full employment, including "full utilization of human and natural resources." As the term is used here, it assumes that the working force would be employed in about the same general proportions at various types of work as it was before the war, and under similar standards with respect to hours and working conditions—except that the number of workers engaged in agriculture would be somewhat less. It means that there would be a job available for every worker who is able and willing to work under those conditions—in other words, the supply of jobs would equal the supply of workers. Hence, if it is possible to estimate how many workers there will be in the post-war period, it is also possible to predict how many

jobs will have to be available to conform to this definition of full employment. Because of the dynamic elements in the situation, such as the rate of population increase, an estimate of the number of workers can be made best by assuming some particular year. Since the purpose of the analysis is to indicate what might be expected during normal peacetime conditions, all of the estimates and calculations are based on the year 1950—a year which it is assumed will follow the immediate transition period, and will not be subject to unusual and disturbing wartime influences.

According to estimates by the Department of Commerce, there were 54.6 million persons in the labor force (civilian and military) in 1940, exclusive of unemployables. Assuming that between 1940 and 1950 the number will have increased at the same rate as it did before 1940 (600,000 a year actually used), it will represent a total at that time of approximately 60 millions. Allowing for a military force of about 2 millions, and allowing for the return of emergency war workers to the homes and the schools, the total "normal" civilian labor force would be about 58 millions in 1950, after the war is over and the industrial plant has been converted to peacetime work.

But even under conditions of full employment, a small number of the labor force will ordinarily be unemployed. On any given day there will always be some workers who are temporarily idle because of the seasonal nature of their work, or because they are on vacation or are changing from one job to another. With a total civilian labor force of approximately 58 millions, this number of so-called "frictionally unemployed" is likely to average at least 2 million workers. Thus, the actual working force in 1950 would not exceed about 56 million persons. If 56 million jobs are available in 1950, there will be a job for virtually every worker who is willing and able to work. This would constitute an economy of full employment. Correspondingly, any substantial number of jobs less than 56 million would mean that the Nation would be working at subcapacity, with many persons needlessly unemployed.

The total normal labor force for 1950 was estimated at less than the actual labor force in 1943, which included about 5.5 million emergency workers, such as children, married women, and older persons, who under ordinary conditions were not part of the labor force. In making the estimate for 1950, it has been assumed that these workers will have withdrawn from the force and will have been replaced by returned war veterans. The actual number of persons seeking work in that year, therefore, would represent only the normal additions to the pre-war labor force because of population increases. It has been argued that at least a part of these emergency workers will continue to seek employment after the war and hence should be considered as permanent additions to the normal post-war labor force. Perhaps so; but since the estimates of the probable number vary widely and are subject to a great deal of controversy, none of these workers were included in the computation. But if any substantial number of the emergency workers should remain in the labor force, employment and income would be somewhat higher than the estimates given here,

although the general picture of the economy would be essentially the same.

It is to be remembered that the estimates are based on the assumption that the war will be over and that industry will have been converted to a peacetime program of production by 1950. Moreover, the civilian labor force of 58 million is not an estimate of the people who actually would be employed, but includes an allowance for 2 million unemployed. If unemployment is to be kept down to the practical minimum of 2 million workers, these estimates indicate the necessity of 56 million civilian jobs in 1950, compared with the average of 52.4 million in 1943. Of the 56 million jobs, 8 millions are assumed to be agricultural, leaving 48 million people in nonagricultural employment.

A National Income of 150 Billion Dollars

With this many workers in agricultural and nonagricultural employment, what might be the level of national income? Before an answer can be given to this question, it is necessary to make further assumptions with respect to price levels and changes in output per worker. It was arbitrarily assumed that the general level of prices in 1950 would remain the same as in 1943, and that average output per worker would increase in line with pre-war trends. If so, the total value of goods and services that would be produced by 56 million workers in 1950 would be about 188 billion dollars. This would be the value of what is commonly called the "gross national product," and compares with a total of 187.8 billion dollars produced by 52.4 million workers in 1943. Despite the fact that 3.5 million more people would be working in 1950 than were working in 1943, the total value of their product would be only slightly greater because most overtime work would be eliminated and production of the more expensive war materials would be reduced to a minimum. With a gross national product of this magnitude, the net national income would amount to about 150 billion dollars or approximately equal to the 1943 figure of 149.4 billion. These estimates of gross national product and net national income may be somewhat conservative, as the use of some of the available data on productivity would indicate levels as high as 200 billion and 160 billion dollars respectively.

Agricultural Prices Average Parity

With a national income of 150 billion dollars in 1950, and a general price level the same as in 1943, what might be the level of agricultural prices? One approach to the reply would be to assume that agricultural prices would stand also at the 1943 level; but 1943 was a war year and the relationship between farm prices and the general price level was well above the peacetime relationship. Because of the abnormally strong demand for farm products during the war and the wartime control of retail food prices, farmers received in 1943 about 52 percent of the consumer's food

dollar, compared with only 39 percent in 1939 and an average of about 40 percent during the 20-year period from 1921 to 1941. If it is assumed, therefore, that in the post-war peacetime period the relation between farm prices and retail food prices would tend to be in line with past peacetime relationships, the prices received by farmers in 1950, under conditions of full employment and with a national income of 150 billion dollars, might stand at about 165 percent of the Aug. 1909-July 1914 level, compared with 193 percent in 1943. On the basis of past relationships with the cost of living, the index of prices paid by farmers would stand at about 165 in 1950, compared with 162 in 1943, and the general level of farm prices would be about 100 percent of parity, compared with 119 percent in 1943. This, of course, does not mean that all individual prices would be at parity; some would be lower, others higher.

As a check on these over-all estimates of agricultural prices, an effort was made to estimate prices for particular commodities and to build up an index for all farm commodities based on the estimates for individual commodities. In doing this, it was recognized that the prices of many individual commodities would be affected not only by the level of national income assumed, but also by other factors, including long-run trends and the prices of competing and related commodities, in both domestic and foreign markets. For example, in estimating prices of hogs and corn, the long-time relationship between the prices of these two commodities had to be considered. Instead of trying to use some uniform method of estimating the individual commodity prices, several commodity experts in the Bureau of Agricultural Economics were asked to make the best long-run estimates possible, assuming no Government price controls or supports, a national income level of 150 billion dollars, and the 1943 wholesale price level. They were given full freedom, however, to introduce all the factors they believed would have a significant effect on the prices of each particular commodity.

Some of the results of this analysis are given in table 1. In arriving at these estimates, not only were the individual commodities considered, but an attempt was made to bring the prices of important competing commodities into normal relationships with each other. When these individual prices were converted into a general index of prices received by farmers, they averaged about 165 percent of the 1910-14 level, which was the same as indicated by the over-all analysis.

Demand and Production

To this point, attention has been given primarily to estimates of national income and farm prices under the assumptions of full employment and the 1943 general price level. Any price estimate for a competitive market is at the same time an estimate of demand and supply because price equates the two. In estimating the prices an attempt has been made to take account of long-run factors affecting the output of these commodities; but since a large part of the analysis is based upon past relationships which, in

TABLE 1.—*Average farm prices for selected items, United States, 1935-39, 1943, and estimates for 1950 under full employment.*

Item	Unit	Average 1935-39	Average 1943	Estimate 1950 [1]
Livestock and livestock products:				
Beef cattle	Cwt.	$ 6.51	$11.80	$10.25
Veal calves	Cwt.	7.75	13.50	12.00
Lambs	Cwt.	7.81	12.90	11.45
Hogs	Cwt.	8.30	13.70	11.25
Eggs	Dozen	.21	.37	.29
Chickens	Pound	.15	.24	.20
Turkeys	Cwt.	.17	.30	.26
Milk	Cwt.	1.81	3.12	2.90
Wool	Pound	.24	.42	.40
Crops:				
Corn	Bushel	.65	1.12	.90
Wheat	Bushel	.81	1.36	1.10
Rice	Bushel	.73	1.78	.85
Soybeans	Bushel	.87	1.82	1.70
Flaxseed	Bushel	1.65	2.83	2.25
Peanuts	Pound	.03	.07	.05
Potatoes	Bushel	.70	1.31	1.00
Dry Beans	Cwt.	3.45	6.04	4.70
Oranges [2]	Box	1.17	2.76	2.10
Apples	Bushel	.79	2.39	1.60
Cotton lint	500-lb. bale	49.55	99.40	65.00
Cottonseed	Ton	25.27	52.10	45.00
Tobacco	Pound	.19	.40	.34

[1] The estimate of the general level of farm prices under full employment is definitely more dependable than the estimate for any particular commodity. Past records of national income at levels approaching 150 billion dollars are too few to support much refinement in estimates for individual commodities.

[2] Equivalent packinghouse-door returns.

NOTE—Estimates for 1950 are based on assumptions described in the text; they are not forecasts.

themselves, do not represent an equilibrium position, it has not been possible to do more than approximate such a position. The economy assumed is one in which unemployment is reduced to a minimum, but in which shifts are still taking place among its various segments—as between individual agricultural commodities and as between agricultural and nonagricultural production. Thus, estimates of the quantities of various agricultural products that would be demanded at these prices in 1950 apply only to that point of time.

Keeping in mind this qualification, it is possible to estimate the approximate quantities of various agricultural products that would be demanded in both domestic and foreign trade. By comparing these estimates with present and past production patterns, it is possible to get some idea of the potential magnitude of postwar adjustment problems.

Total production requirements under any set of assumptions regarding prices and employment consist of the quantities that would be taken by domestic consumers, plus the quantities that would be exported to foreign buyers, minus the volume of competitive products that would be imported from abroad. The order in which these components are estimated makes no difference in the results, but all of them must be taken into account. In the present analysis, possible imports and exports are considered first.

Imports and Exports in 1950?

The volume and value of agricultural products this country can expect to sell to foreign countries depend upon the purchasing power of foreign consumers as well as upon the prices at which farmers in the United States are willing to sell their products. The purchasing power of foreign consumers depends, of course, upon the number of dollars available to them with which to buy from the United States. Payments to foreigners for shipping services, expenditures by tourists in foreign countries, remittances to relatives, payments of interest and dividends to foreign investors, and purchases of goods, all contribute to providing exchange for purchasing power for foreigners to buy from the United States. They cannot buy unless they have purchasing power; and trade with the United States is facilitated as the United States contributes to foreign purchasing power by all of these methods. United States imports, in the past, have constituted by far the largest source of dollars for foreign countries.

Investments in foreign countries will in themselves provide purchasing power while they are being made. To the extent that such investments in the form of loans for the development of resources are productive, they will build up purchasing power in foreign countries, and will thus tend to stimulate trade. The hope for continued exports of agricultural products lies in the fact that the United States may continue to produce and sell at prices low enough to compete with other producers, and that foreign investments will result in a general improvement in purchasing power and in the consumption of goods and services throughout the world sufficient to absorb the increased production of foreign countries in addition to the production of this country.

How Much of What Products Would Be Imported in 1950?

But if estimates are based entirely upon the past relationship between the volume of foreign trade and the level of national income, it is possible to find at least a tenuous guide to the future. Department of Commerce studies[1] show that changes in total imports have followed closely changes in the national income. In the two decades between the two World Wars, agricultural imports into the United States represented about 50 percent of all imports. On the basis of these relationships, it might be expected that annual imports of all commodities after this war would total about 5 billion dollars, and those of agricultural products about 2.5 billion dollars—if the national income is maintained at 150 billion dollars.

But certain developments have taken place during the present war which indicate that this relationship may not hold after peace has been restored. The war has put a tremendous drain upon some domestic resources. Certain essential metals like copper, lead,

[1] See *The United States in the World Economy*, Economic Series No. 23, U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, May 1943.

and zinc have been used up very rapidly. Our supply of the best grades of iron ore is being rapidly depleted. The same is true, in even greater degree, with respect to petroleum reserves. Therefore, it seems likely that these materials will bulk relatively larger in future imports than they have in the past.

On the other hand, the trend away from silk toward nylon and other synthetic fibers would seem to point to the possibility of a decline in the future volume of imports of this product which has been an important item in agricultural imports heretofore. Thus, with a downward trend in this item and with an upward trend in certain of the nonagricultural items, it seems probable that agricultural imports, as a whole, will represent a smaller proportion of the total value of all imports than they have in the past.

What this relative decline will be no one now knows; but as a basis for the present discussion it is assumed that the value of agricultural imports in 1950, under conditions of full employment, will decline to 40 percent of the total value of all imports. This does not appear to be an unreasonable assumption in the light of the potential developments that may be in the offing. Thus, with an estimated value of all imports of 5 billion dollars, agricultural imports would be about 2 billion dollars. This compares with an actual value of agricultural imports in 1925-29 of 2.2 billion dollars, and in 1935-39 of 1.2 billion dollars. The total would include, in large measure, commodities not produced in this country, such as rubber, coffee, bananas, and industrial vegetable oils.

How Much of What Agricultural Imports?

How would this total be distributed among the different agricultural products? Here again there is no adequate basis for a precise answer. Agricultural imports (both competitive and noncompetitive) must be examined item by item to see how they have fluctuated under the varying conditions of the past and to arrive at estimates that appear most reasonable under the conditions assumed. The results of such an analysis are shown in table 2. The estimated imports for 1950 are higher for most of the products, and in some instances they are substantially higher, than actual imports in 1925-29 or in 1935-39. This is partly accounted for by the increase in population and partly, of course, by the greater business activity and higher national income that are assumed for 1950.

The estimated volume of imports for some of the individual items are based upon the following considerations:

Sugar imports of the magnitude shown would be necessary to supply estimated domestic requirements under full employment even if shipments from insular possessions increased about 40 percent from the 1935-39 average and if domestic production were continued at a rate slightly above 1935-39.

Estimated *Fats and oils imports* are higher than for 1925-29 and lower than during the war on the assumption that the domestic acreages of soybeans, peanuts, and flax would be reduced below wartime levels, in view of the large supplies of cheap vegetable

TABLE 2.—*Agricultural imports of selected items, United States, averages 1925-29 and 1935-39, and estimates for 1950 under full employment.*[1]

Item	Unit	Average 1925-29	Average 1935-39	Estimate 1950
Sugar [2]	1,000 tons	4,301	3,018	4,400
Molasses	Million gal.	263	242	750
Fats and oils (excl. butter)	Million lb.	1,716	2,239	1,925
Meat products	Million lb.	156	262	300
Dairy products (fluid milk equiv.)	Million lb.	1,329	752	750
Feed grains	Million bu.	2	38	40
Hides and skins	Million lb.	450	288	600
Wool, apparel	Million lb.	128	86	400
Wool, carpet	Million lb.	148	138	200
Cotton	1,000 bales	398	185	200
Tobacco [3]	Million lb.	76	60	75
Jute and jute butts	1,000 tons	83	70	125
Sisal and henequen	1,000 tons	123	130	175
Abaca	1,000 tons	61	42	75
Flax and hemp	1,000 tons	8	6	10
Other fibers	1,000 tons	43	38	50
Bananas	Million bchs.	60	59	75
Coffee	Million lb.	1,430	1,838	2,450
Cocoa beans	Million lb.	424	595	800
Tea	Million lb.	93	89	100
Rubber	Million lb.	1,002	1,150	1,150
Silk	Million lb.	85	63	25

[1] Including trade with the Philippines.

[2] Plus shipments from insular territories which are estimated for 1950 at about 2,600 thousand tons.

[3] Plus duty-free shipments from insular territories which are estimated for 1950 at about 22 million pounds.

NOTE—Estimates for 1950 are based on assumptions described in the text; they are not forecasts.

oils that will be available from the Orient and other overseas sources, and in view of the necessity of maintaining a high percentage of crop acreage in feed grains to produce the meat and other livestock products that will be demanded under the high national income assumed for 1950. This appraisal, of course, leaves open the question of whether the relative importance of oil crops may be changed because of increased demand for protein feeds. As the oil crops also yield high-protein feeds, it may be that in the future evaluation of them will tend to consider the oil as a byproduct, rather than the protein.

Rubber imports in 1950 are arbitrarily assumed to be maintained at the 1935-39 level, with the synthetic-rubber program taking care of expected increases in total demand for rubber.

The indicated *Molasses imports* are considerably higher than at any time in the past. The estimate is based on the assumption that a part of the synthetic-rubber program would not be scrapped, and that blackstrap and invert molasses would be important sources of alcohol for this rubber. Grain can also be used, but it is assumed that little would be available for producing alcohol for rubber, for most if not all of it would be needed to meet domestic demand for meat, dairy, and poultry products.

Wool imports are estimated to be higher than before the war because per capita consumption under full employment would be substantially greater. In view of the estimated marked increase in total consumption, these imports would be needed to meet domestic requirements, despite an estimated increase in domestic production.

Silk imports have been estimated at about 40 percent of the 1935-39 level on the assumption that the downward trend will continue at an accelerated rate owing to the disruption and destruction occasioned by the war and to the increased competition from nylon and other synthetics.

The increased imports indicated for other products are about in line with what would be reasonable to expect from past relationships between imports of these products and changes in business activity in the United States. Abaca (Manila hemp) imports are assumed to be larger in order to provide for a greatly expanded Navy.

Exports in 1950

In addition to the foreign purchasing power created by merchandise imports of all kinds (estimated for 1950 to be 5 billion dollars), there would be, of course, outpayments for services and miscellaneous transactions as well as the investment abroad of United States capital. Although the past relationship between these other payments of dollars to foreigners and the level of business activity in the United States has not been quite so close or clear-cut as in the case of our merchandise imports, they nevertheless have tended to move together; that is, outpayments and foreign investments have tended to be high when business activity has been high, and low when it has been low. Projecting solely on the basis of these past relationships, these outpayments plus investments of United States capital abroad would be expected to approximate 4 billion dollars when the national income is 150 billion dollars.

If, then, this 4 billion dollars is added to the 5 billion dollars on account of merchandise imports, a total of 9 billion dollars would be available to foreigners for purchase of goods from the United States and for other current transactions. How would they make use of these dollars?

During the interwar period 1919-1939, the number of dollars expended by foreigners on American goods (for United States exports) averaged 68 percent of the total dollars available to them. If foreigners should spend for merchandise from the United States, in 1950, about this portion of the 9 billion dollars estimated to be available to them at that time, their total purchases would amount to 6.1 billion dollars. This compares with a total value of exports in 1925-29 of 4.8 billion dollars, and in 1935-39 of around 3 billion dollars.

With expenditures of this magnitude (6.1 billion dollars) for total purchases of goods (exports), what proportion would be used in the purchase of agricultural products? In 1925-29, agricultural exports comprised 37 percent of all exports. By 1935-39, however, this proportion had dropped to 25 percent. If the downward trends that were under way in the 1930's for many agricultural products should be resumed after the war, it is likely that this ratio would drop still more. For purposes of this discussion, it is assumed that it would drop another five points and

that agricultural exports in 1950 would represent about one-fifth of the value of total exports. Using this ratio as a basis for projection, agricultural exports would be about 1.2 billion dollars, as compared with 1.9 billion dollars in 1925-29 and about 750 million dollars in 1935-39.

It makes a great deal of difference to farmers who produce for the export market whether the proportion of total exports represented by agricultural products turns out to be 20 percent, 25 percent, or 37.5 percent. It is the difference between a total dollar value of agricultural exports of 1.2 billions, 1.5 billions, and 2.3 billions, respectively. To accept the highest of these three figures as a possibility, would be to assume a volume of exports almost double the quantity estimated here. The chance that such a large market might actually be realized would seem to rest on the possibility that the total number of dollars available to foreigners might exceed the 9 billions assumed. This is conceivable, if it proves to be possible to achieve a degree of international collaboration far greater than that assumed; but it has been difficult to build up, item by item, an estimate of total agricultural exports that would exceed 1.2 billions.

How Much of What Agricultural Exports?

Estimated exports of the major agricultural products in 1950 are shown in table 3. Actual exports for the periods 1925-29 and 1935-39 are shown for comparative purposes. The estimates for 1950 are, in general, substantially below actual exports for 1925-29; and, for certain important items, notably cotton, are below those for 1935-39. This is in accord with the downward trend in agricultural exports for a number of years. The greatest relative declines have been in cotton, wheat, fats and oils (particularly lard), and in meats and dairy products. Exports of certain types of tobacco, especially Virginia Dark, and Kentucky and Tennessee Fire-cured, also have declined markedly; these have been offset in part by increased exports of flue-cured. Citrus exports have steadily increased, but exports of fresh apples have declined. Dried fruits as a whole have remained fairly constant but canned fruits have increased somewhat. Exports of fresh and canned vegetables taken altogether have tended to decline.

Under conditions assumed for 1950 it seems probable that exports of lard would exceed the 1935-39 levels. Citrus exports also should continue to increase, and probably in substantial degree. Not much change has been assumed for dairy products.

For cotton, wheat, and tobacco, the principal agricultural exports in the past, the estimates are more pessimistic. This is particularly true in regard to cotton. Although world consumption of cotton increased from an average of 25.2 million bales in 1925-29 to 28.5 million bales in 1935-39, world consumption of United States cotton declined from 14.7 million bales to 12.1 million bales during the same period and exports of United States cotton decreased from 8.6 million bales to 5.6 million bales. This decline in consumption of United States cotton was offset

TABLE 3.—*Gross agricultural exports and shipments to territories of selected items, United States, averages 1925-29 and 1935-39 and estimates for 1950 under full employment.*[1]

Item	Unit	Average 1925-29	Average 1935-39	Estimate 1950 [2]
Wheat	Million bushels	170	54	[3] 75-100
Rice (milled)	Million pounds	556	526	580
Lard	Million pounds	767	192	600
Other fats & oils (excl. butter)	Million pounds	263	97	60
Pork (dressed wt.)	Million pounds	429	143	340
Other meat (dressed wt.)	Million pounds	70	54	60
Eggs [4]	1,000 dozen	22,600	2,200	2,250
Dairy products (fluid milk equiv.)	Million pounds	547	352	500
Feed grains	Million bushels	75	52	60
Dry beans and peas (cleaned)	1,000-100 pound bags	663	874	850
Fresh vegetables	Million pounds	43	113	130
Canned vegetables (fresh equiv.)	Million pounds	107	93	250
Citrus fruits (fresh equiv.)	Million pounds	339	562	800
Other fruits (fresh equiv.)	Million pounds	2,876	2,550	3,000
Cotton	1,000 bales	8,575	5,600	4,500
Tobacco (farm wt.)	Million pounds	601	457	440

[1] Calendar-year basis, except for cotton, tobacco, rice, dry beans, and peas.
[2] Total value of exports and shipments (in terms of export prices) under full employment approximately 1.2 billion dollars. Export prices usually average about 25 percent above the farm price level.
[3] This might exceed the United States quota under an international wheat agreement.
[4] The sharp reduction in exports of eggs from 1925-29 to 1935-39 was due to the imposition by Cuba of a tariff in 1927 of 8 cents per dozen, which was raised to 12 cents in 1930.
NOTE—Estimates for 1950 are based on assumptions described in the text; they are not forecasts.

by an increase in consumption of foreign cotton. At the same time, rayon production was also increasing both in this country and abroad. Altogether, production of foreign cotton increased from 10.7 million bales to 16.8 million bales, while world production of rayon increased from the equivalent of 0.7 million bales of cotton to the equivalent of almost 4.0 million bales between 1925-29 and 1935-39.

If this trend is projected into the year 1950, exports of around 3.5 million bales would be indicated for that year. A similar estimate would result if the trends in production and consumption of foreign cotton were projected; or if the trends in imports of cotton into, and exports of cotton from, foreign countries for the same period were projected.

The question is, Will the trends under way from 1924 to 1939 be resumed after the war? There is no certain answer. Stocks of foreign cotton are at record high levels. Stocks on August 1, 1944, stood at 14.4 million bales and have been increasing at the rate of about 1 million bales a year. They stood at 7.5 million bales in 1939. Competition of synthetic fibers has become more intense. For example, rayon production in foreign countries, which was equivalent to about 1.9 million bales of cotton in 1935, had increased to the equivalent of about 6.7 million bales by 1942.

What the level of rayon production will be after the war is uncertain. It will depend in part, no doubt, upon the extent to which mills in continental Europe, Russia, and Japan are destroyed by bombings or by scorched-earth policies, and upon the extent and rapidity of their restoration. Even though the losses in production facilities may be heavy, it seems highly probable that the output of synthetics after the war will be at a level still higher than in the pre-war period. But a strong demand for textiles resulting from high business activity in the United States

and from relatively good conditions abroad would offset, partially at least, the increased competition from synthetics.

Much will depend upon the price and trade policies followed. If prices of United States cotton are maintained at a level above world prices, many of the same difficulties experienced in the later 1930's will confront cotton producers of this country in their efforts to sell cotton abroad. Under such conditions both production and consumption of foreign cotton would probably increase and our exports would suffer as a consequence.

The imponderables in the outlook for cotton are so great that a simple projection of past trends would be highly questionable. If many of the doubts are resolved in favor of a liberal estimate for exports of cotton in 1950, the figure might stand at about 4.5 million bales—the quantity shown in table 3. There are plausible arguments for making the estimate as low as 3 million bales and as high as, or higher than, 6 million; but if any figure smaller than 4.5 million should be used, it would be even more difficult to find other items in sufficient quantity to make all agricultural exports total 1.2 billion dollars.

The prospects for exports of wheat also are uncertain. With the prevailing level of wheat production in the principal exporting countries, and with the stock piles that are in prospect, even after allowing for relief feeding, it does not seem likely that American wheat can find a too-ready market abroad. The estimate of 75 to 100 million bushels for 1950, in fact, may be too high.

Exports of bright tobacco have held up very well. Even though expansion of production is under way in Canada and in the U.S.S.R. particularly, and to a lesser extent in other competing countries, it seems reasonable to assume that producers in the United States would be able to export possibly 15 percent more of this tobacco than they did in 1935-39.

How Much of What Farm Products Would Be Consumed?

But the meaning to the farmer of full employment after the war would be determined much more by its effect upon the domestic demand for agricultural products than by its influence upon foreign trade. The estimated per capita consumption of selected agricultural commodities under conditions of full employment in 1950, together with comparable figures for 1935-39 and 1943, is shown in table 4.[2] The significant thing about the table is the way in which peacetime consumer demand increases under

[2] There are several possible procedures for estimating the quantities of the different agricultural products domestic consumers would be willing to take under the conditions assumed for 1950. One would be to base the estimates on relationships between domestic consumption, prices, and consumer incomes. Another would be to extend long-time trends in consumption. The income approach, or the first of these two, could be made along two lines. All consumers could be lumped together, and on the basis of the observed manner in which they have reacted en masse with given changes in the national income, an estimate could be made of the quantities of the various products they would purchase under the level of prices and income assumed to prevail in 1950. Or, the total population could be broken down first into income groups, and on the basis of the observed manner in which a representative cross section of the families in each income group have spent their income in the past (as disclosed by consumer-expenditure studies), an estimate could be made of what *all* families in the several income groups would purchase under the prices and incomes assumed. These methods give very similar results. In all cases in which income data were available, they were used in making the estimates presented here. When income data were not available or gave no significant results, the method of extending trends was used.

full employment. The per capita consumption for all the major agricultural products, with the exception of potatoes and wheat, would be higher in 1950 than it was in 1935-39. The indicated figures for per capita consumption for the year 1943 cannot be compared directly with those for the other years. Although there was full employment and a high level of national income (149.4 billion dollars) in that year, consumption of certain of the commodities was held down because of rationing. Had there been no rationing or other controls, and had prices been similar to those assumed for 1950, per capita consumption in 1943 would have been approximately at the same level as that shown for 1950.

That consumers are disposed to buy larger quantities of agricultural products in general (and substantially larger quantities of particular commodities) when labor is fully employed and business activity and national income are high, is a matter of great significance to agriculture. It demonstrates, as nothing else can, the farmer's interest in a high level of industrial activity. For it means not only that he can sell a larger volume of most agricultural products, but that he can sell at more favorable prices than when the national income is depressed or is below the full-employment level.

Production Requirements and Cash Farm Income

Assuming a total population in 1950 of 144 millions, and using the estimates of per capita consumption for that year (see table 4), the total domestic demand was calculated. By adding

Table 4.—*Per capita consumption of selected agricultural commodities, United States, averages 1935-39, 1943, and estimates for 1950 under full employment.*[1]

Commodity	Average 1935-39	1943 (civilian only)	1950	
			Estimated per capita	Percentage of 1935-39 average
Food:	*Pounds*	*Pounds*	*Pounds*	*Percent*
Beef and veal (dressed weight)	62.8	57.7	71.0	113
Lamb and mutton (dressed weight)	6.7	6.3	7.0	104
Pork and lard (dressed weight)	67.1	87.1	96.0	143
Chickens (dressed weight)	17.9	28.1	25.0	140
Turkeys	2.6	3.2	5.0	192
Eggs	37.3	42.9	43.5	117
Dairy products (fluid milk equivalent)	801.3	767.2	895.0	112
Fats and oils (excluding lard and butter)	20.3	19.2	21.0	103
Citrus fruit	48.8	59.7	75.0	154
Other fresh fruit[2]	89.4	61.3	90.0	101
Commercial truck	95.0	88.7	109.0	115
Canned vegetables (processed weight)	31.1	36.1	43.0	138
Potatoes	130.6	132.4	116.0	89
Dry beans (cleaned)	8.8	8.5	9.0	102
Sugar (refined)	96.5	80.3	115.0	119
Wheat	221.4	225.9	212.0	96
Corn (excluding malt liquor)	56.3	68.3	58.0	103
Peanuts (shelled)	4.3	7.5	6.0	140
Nonfood:[3]				
Wool (mill consumption)[4]	4.5	7.7	6.0	133
Cotton	25.3	39.8	30.0	119
Tobacco (farm sales weight)	7.6	9.8	10.0	132

[1] In terms of calories (retail-weight basis), per capita consumption at full employment in 1950 would be approximately 10 percent above the 1935-39 average and 4 percent above the peak consumption of 1941.
[2] Excludes consumption of noncommercial apples.
[3] Estimates for 1943 represent average consumption for the total population, as military consumption is not available.
[4] Apparel wool, grease basis.
Note—Estimates for 1950 are based on assumptions described in the text; they are not forecasts.

estimated exports to the estimated domestic demand and then deducting estimated competitive imports, it was possible to arrive at total requirements for domestic production in 1950. These figures for major farm commodities are shown in table 5, together

TABLE 5.—*Production of major agricultural commodities, United States, averages 1935-39, 1943, and estimated production required in 1950 under full employment.*

Commodity	Unit	Average 1935-39	1943	1950	
				Estimated Production	Percentage of 1935-39
Livestock products:					*Percent*
Beef and veal (dressed weight)	Million pounds	7,974	9,678	9,975	125
Lamb and mutton	Million pounds	871	1,107	1,010	116
Pork (excl. lard)	Million pounds	7,337	13,371	12,135	165
Eggs (number, farm and non-farm)	Million dozen	3,335	4,965	4,330	130
Chickens—dressed weight	Million pounds	2,325	3,821	3,600	155
Turkeys—dressed weight	Million pounds	350	466	720	206
Dairy products (fluid milk equiv.)	Million pounds	103,656	117,689	128,400	124
Wool (grease basis)	Million pounds	425	448	465	109
Crops:					
Corn	Million bushels	2,316	3,034	2,875	124
Wheat	Million bushels	759	841	785	103
Rice	Million bushels	50	65	50	100
Soybeans	Million bushels	56	193	180	321
Flaxseed	Million bushels	11	52	25	227
Peanuts	Million pounds	1,229	2,185	1,820	148
Sugar (raw)	1,000 tons	1,948	1,496	2,160	111
Potatoes	Million bushels	359	465	350	97
Dry beans (cleaned)	1,000 100-pound bags	13,606	19,431	15,200	112
Truck crops	1,000 tons	14,533	15,777	19,200	132
All citrus fruit (fresh equivalent)	Million pounds	8,438	12,610	13,800	164
All other fruit (fresh equivalent)	Million pounds	18,198	16,072	20,350	112
Cotton (lint)	1,000 bales	13,149	11,427	13,500	103
Tobacco (farm weight)	Million pounds	1,460	1,403	2,127	146

NOTE—Estimates for 1950 are based on assumptions described in the text; they are not forecasts.

with actual production data for 1935-39 and for 1943. Production requirements in 1950 for most commodities would be much higher than the average actual production for the pre-war years 1935-39. Potatoes are the only crop for which requirements would be less; in that case the reduction would be about 3 percent. Even as compared with 1943 production, the requirements for many commodities would be greater. More beef, milk, truck crops, fruit, cotton, and tobacco would be needed, but requirements for corn, wheat, and peanuts would be less. The significance of these comparisons as measures of possible postwar production adjustments depends partly, of course, on production changes that occur during the remainder of the war period.

Total production requirements, if valued at the prices estimated for 1950—which average about parity—would yield a total cash income from farm marketings of about 17 billion dollars, compared with 19.2 billion dollars in 1943. Although this gross income would be moderately below the 1943 level, it actually would represent a greater total physical product than in 1943, because it is assumed to be sold at somewhat lower prices. As previously pointed out, production for export (at farm prices) would amount to less than 1 billion dollars, or to less than one-seventeenth of the total.

The estimated value of the total production required would

seem to suggest only minor adjustment problems for agriculture; but unfortunately that would not be true. It would be true only if agricultural technology or agricultural efficiency should remain static and if the same relative quantities of the various agricultural products were needed after the war as during the war. There is no prospect that either of these conditions would prevail.

Improvements in Technology

Output per acre, per animal unit, and per agricultural worker would probably increase substantially. Two sets of estimates of yields per acre for the principal crops for 1950 are shown in table 6.

Table 6.—*Yield per acre of selected crops, United States, averages 1935-39, 1943, and estimated yields for 1950 under average and improved farm technology.*

Crop [1]	Unit	Yields per acre			
		Average 1935-39	1943	1950	
				Average technology	Improved technology
Corn	Bushels	24.0	31.4	30.2	33.8
Wheat	Bushels	10.3	15.3	12.1	13.3
Rice	Bushels	49.4	42.9	47.8	50.2
Soybeans	Bushels	18.1	18.1	18.0	22.5
Flaxseed	Bushels	6.0	8.2	8.5	9.2
Peanuts	Pounds	745.6	607.7	700.0	840.0
Potatoes	Bushels	114.2	135.1	130.4	148.0
Dry beans	Pounds	763.3	783.0	900.0	945.0
Cotton	Pounds	221.5	250.1	249.0	261.0
Tobacco	Pounds	882.6	966.0	974.0	1,022.7

[1] Based on planted acreage, except for cotton in cultivation July 1, soybeans harvested for beans, peanuts picked and threshed, and tobacco harvested.

Note—Estimates for 1950 are based on assumptions described in the text; they are not forecasts.

The first set, under the heading "Average technology," represents estimates of what yields would be under current technology if weather conditions were "normal"; they average slightly below actual yields for 1943, but about 13 percent above those for 1935-39. The second set of estimates under the heading "Improved technology" also assumes normal weather but allows for technological improvements that reasonably might be expected by 1950. On the average, these latter estimates represent an increase of about 11 percent above the first estimates, or approximately 25 percent above 1935-39 yields. They assume wider use of known and available improved varieties and strains of seeds, better rotation and conservation practices, increased use of fertilizer, better control of insects and disease, and better timing in planting and harvesting operations.

After considering the various problems involved in increasing the efficiency of livestock production, it seems reasonable to assume an increase of about 5 percent in milk production per cow and in egg production per hen. With respect to the over-all efficiency with which feed would be utilized by all livestock, an estimate of a 2½ percent increase by 1950 would seem to be a reasonable assumption. Improvement in sanitation and control of disease would increase efficiency in using feed in all classes

of livestock. More careful individual feeding of dairy cows, better balanced rations, the use of more adequate protein and mineral supplements, especially in hog and cattle feeding, and improvements in hay and pasture for roughage-consuming animals would all tend to increase efficiency. Cross-breeding, artificial insemination, and other means of improving the genetic composition of livestock eventually would be important.

Although improvements in farm technology may not take place as rapidly as these assumptions indicate, it is probable that real changes will occur, and it is possible that they will develop at an even more rapid rate. The extent to which they do occur will be most important in determining the land and labor requirements for meeting post-war demand for farm products—hence, in determining the extent and nature of needed post-war adjustments in the use of resources.

Farm efficiency has certainly not stood still during the war. New developments have taken place in several directions. As farmers have been able to expand production greatly in spite of a wartime shortage of laborers, and shortages of machinery, fertilizer, and other materials, it seems reasonable to assume that they could expand still more when the war is over—when experienced help is more available, when these materials are in plentiful supply, and when better methods and techniques of production will be available.

Livestock Numbers and Acres Required

Two estimates of the numbers of livestock and crop acres that would meet total requirements for American farm products in 1950, with national income at 150 billion dollars and imports and exports of the magnitudes indicated in tables 2 and 3, are shown in table 7. One of these is constructed on the assumption of "average" technology, which means current yields adjusted for "normal" weather. The other estimate assumes the crop yields shown in table 6 for "improved" technology and the increased efficiency in livestock production noted above. Actual livestock numbers and acreages of selected crops for 1935-39 and 1943 are shown for comparative purposes.

According to the first estimate, total crop requirements could be produced on 369 million acres of cropland or on 18.6 million acres more than was used in 1943. Under the second estimate, which allows for moderate improvements in technology, downward adjustments from the 1943 level would be necessary. With improved technology, total production requirements could be met in 1950 by the cultivation of only 327 million acres of cropland, or about 23 million acres less than was used in 1943.

Both estimates assume continued substitution of tractors for horses and mules at about the same rate as in the past. The continuation of this trend would displace about 2.4 million horses and mules, and this alone would account for about 7 million of the 23 million acres difference between the 1943 acreage and the estimated 1950 acreage under improved technology. If the substitution of tractors between 1943 and 1950 should take place at a greater rate than in the past, the disparity between the 1943

acreage and 1950 requirements under improved technology would be proportionately greater.

If, on the other hand, technology should actually improve at about half the rate that has been assumed, the acreage required in 1950 would be about the same as the actual acreage in 1943. But if the assumptions concerning improvements should prove to be too conservative, not only would the acres required be even less than the estimated 327 million, but also the prices assumed would tend to stimulate production beyond the estimated requirements and the effect of that would be to depress prices unless additional markets could be found.

TABLE 7.—*Number of livestock, acreage of selected crops, and total land used for crops, averages* 1935-39, 1943, *and estimates for* 1950 *under full employment and varying technology.*

Item	Average 1935-39	1943	1950	
			Average technology	Improved technology
	1,000 head	*1,000 head*	*1,000 head*	*1,000 head*
Meat animals slaughtered:				
Hogs	56,789	95,273	92,561	92,561
Cattle and calves	24,756	27,629	29,552	29,552
Sheep and lambs	21,809	27,073	25,583	25,583
Chickens (farm)	587,379	814,893	662,500	662,500
Commercial broilers	69,287	251,649	390,000	390,000
Turkeys	26,038	31,749	49,450	49,450
Milk cows, average number during year	23,548	25,661	27,860	26,536
Horses and mules on farms January 1	364,377	487,837	420,900	400,861
Hens and pullets on farms January 1	15,750	13,379	11,000	11,000
Acreage of selected crops:	*1,000 acres*	*1,000 acres*	*1,000 acres*	*1,000 acres*
Corn	97,055	96,786	95,199	85,059
Wheat	73,251	55,127	65,702	59,774
Rice	1,007	1,513	1,109	1,056
Soybeans for beans [1]	3,042	10,684	10,000	8,000
Flaxseed	1,938	6,299	2,941	2,717
Peanuts, picked and threshed [1]	1,659	3,595	2,600	2,167
All tame hay	55,770	60,880	75,000	62,577
Sugarcane	285	306	354	320
Sugar beets	892	616	836	760
Potatoes	3,123	3,441	2,684	2,365
Dry beans	1,917	2,673	1,690	1,610
Processing vegetables (11 crops)	1,479	2,110	2,230	2,124
Commercial vegetables, fresh (25 crops)	1,745	1,573	2,070	1,972
Fruits and nuts [2]	6,000	6,000	6,300	6,000
Cotton, all	28,496	21,942	25,916	24,724
Tobacco	1,647	1,452	1,935	1,843
Total land used for crops [3]	345,588	349,999	368,630	327,015

[1] Harvested acreage. All others are planted acreages.

[2] Estimate of total acreage of fruits, nuts, and horticultural specialties based on 1934 and 1939 average acreage as reported by the Census.

[3] Adjusted for multiple use of land where 2 or more crops were, or would be, planted on or harvested from the same land during the year. This total includes fruits and nuts but does not include rotation pasture or wild hay. All estimates except those for fruits and nuts are based on data compiled in the Bureau of Agricultural Economics.

NOTE—Estimates for 1950 are based on assumptions described in the text; they are not forecasts.

AN ADDITIONAL OUTLET FOR FARM PRODUCTS

The possibility that production might outrun demand—especially if technology should improve at a greater rate than that assumed—is a matter of great importance to agriculture. To avoid serious reduction of farm prices and incomes, it would then be necessary either to curtail acreage and production or to find outlets for a larger output than would otherwise be

demanded. Clearly, it would not be in the general interest to slow down or freeze technological developments in agriculture. On the other hand, it is also important to see that the farm group is not left "holding the bag" filled with some of the consequences that might flow from abnormally rapid expansion of technological improvements. Farmers have had this experience before, particularly after the Civil War.

If the low-price solution is unacceptable, what are the alternatives? One possibility that has been suggested is a Government program to improve the diets of people in the lower income brackets by supplementing the amounts of food which they can normally afford to purchase. Even in case of a national income of 150 billion dollars there would still be many people in the United States who would be inadequately fed. To get some idea of the possible dimensions of a program to solve this problem, in terms of the additional production that would be required, it has been assumed that the program would apply only to families receiving annual incomes of less than $1,500. If all these people were provided with low-cost adequate diets, substantial additional quantities of particular foods would be needed. These quantities are shown in table 8.

TABLE 8.—*Estimated additional farm production of major items required in 1950 to provide at least a low-cost adequate diet for all families with less than $1,500 income*[1].

Item	Unit	Additional farm production
Livestock products:		
Beef and veal—(dressed weight)	Million pounds	35
Pork (excl. lard) (dressed weight)	Million pounds	30
Eggs	Million dozen	26
Dairy products (fluid milk equivalent)	Million pounds	8,130
Crops:		
Dry beans and peas	1000 100-ppound bags	4,230
Processing vegetables (fresh equivalent)	Million pounds	460
Commercial vegetables (fresh equivalent)	Million pounds	700
Potatoes and sweetpotatoes	Million bushels	67
Citrus (fresh equivalent)	Million pounds	725

[1] Nutritional deficiencies (in terms of conventional food groups such as milk, leafy green and yellow vegetables, etc.) were estimated by computing the differences between (1) the estimated average or normal demand of people in the various income groups whose family incomes would be less than $1500 under the conditions assumed and (2) the quantities needed to supply these same families with the low-cost adequate diet recommended by the Bureau of Human Nutrition and Home Economics, including a small allowance for the fact that some of these low-income families are now consuming and will continue to consume something better than the low-cost adequate diet.

Estimates of the additional farm production needed were obtained by converting the estimated food-group deficiencies to deficiencies for specific foods, farm-weight basis. The necessary feed production for the additional livestock products was likewise computed. Estimates of additional crop acreage were then derived by dividing the farm-production totals by the estimated 1950 yields per acre, assuming both improved and average technology.

Under improved technology all of these additional products could be produced on an additional 4.8 million acres of cropland; with "average technology" they could be produced on 5.5 million acres. Of course, the additional acreage required would be somewhat higher if, instead of the low-cost diet, a moderate-cost diet had been used as a basis for making the estimates. About 5 million acres, therefore, would be the minimum additional area

required to supply the product needed in a Government-sponsored nutrition program for these low-income people. The product of a larger acreage could easily be used.[3]

Adding this possible outlet to the previous estimate, it is found that, at about parity prices and under improved technology, farmers of the United States could dispose of the product of about 332 million crop acres, thus still leaving the necessity for reducing the total area of cropland 18 million acres below the 1943 level. To the extent that the acreage of cropland increases during the war above the 1943 level, the required shrinkage would be even greater.

A program to supplement the diets of low-income families would still leave some families with incomes above $1,500 per year who would not be receiving adequate diets. In other words, the calculations which have been presented are absolute minima from a nutritional standpoint. They are not estimates of what would be needed to provide every family in the United States with an adequate diet even under full employment. Other elements of a program for dealing with the nutrition problem include effective education on how to eat for abundant health, as well as efforts to reduce food-distribution costs so as to enable both low- and middle-income groups to consume more of certain proteins, minerals, and vitamins, which are often found most abundantly in the more expensive foods.

Employed and Available Farm Workers

If full employment should be achieved in 1950, would the area of land in cultivation shrink to the required acreage as a result of a shrinkage in the agricultural labor force? Under full employment and improved technology, it is assumed that the equivalent of only 8 million of the 56 million full-time jobs would be in agriculture. This situation is assumed to represent roughly a condition of general equilibrium in which the more important parts of the economy would be in balance.

Unless the requisite balance between agricultural and nonagricultural labor were achieved under a full-employment situation, there would be a surplus of labor on farms, which would exert a constant pressure toward surplus acres and surplus production. Even at present half of the farms are producing 80 to 90 percent of the marketed product, leaving a large part of the labor force of the other half relatively underemployed. Moreover, the fact that the farm labor force can be greatly expanded is highly significant in estimating agricultural production at any level of prices and in maintaining an adequate supply of labor for farming operations. The number of women, children, and older men in the force can change greatly in response to changed conditions; and by increasing or decreasing the hours of labor the quantity of product can be changed without the addition or subtraction of a single person from the labor force.

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[3] The increased consumption resulting from a Food Stamp Plan or similar program probably would be somewhat larger than that indicated in table 8, and there might be fairly significant differences in the individual commodities. For example, a considerably greater increase in meat consumption might be expected.

The hours worked per week have increased during the war. It is reasonable to suppose that when normal peacetime conditions return, many women, children, and older men will withdraw and their jobs will be taken by the more active and effective men who will return from war service of various kinds. Moreover, hours worked per week will naturally be reduced. This would result in a large reservoir of manpower which may or may not be utilized, depending upon the level of prices.

Even without these changes, there is enough manpower on farms now to supply at prices attractive to farmers more agricultural products than would be absorbed under the conditions assumed for 1950.

If, as a matter of fact, the number of persons who return to farms after the war should be about equal to the number of farm boys now in the armed services, and if the number of farm people who migrate from farms to cities and towns should be about equal to the natural increase in farm population, there would be about 9.5 million able-bodied workers on farms available for farm work in 1950—or approximately 1.5 million more workers than would be needed under the assumptions made in this analysis.

But if the full-employment situation is achieved, these surplus farm workers would have jobs waiting for them in industry. In fact, the national income of 150 billion dollars is predicated on the assumption that these 1.5 million workers in agriculture would transfer from agriculture to industry and the service trades and would be available to help produce the total bill of goods making up the 150-billion-dollar national income.

Thus, so long as the full-employment situation is maintained, the population-land problem is not to be solved by putting people on the land and making jobs in agriculture, but rather by giving farm workers nonfarm jobs. This is the major type of adjustment that will be necessary in agriculture even in a full-employment situation. And it is possible that inertia, custom, and habit would prevent such a large adjustment in population by 1950, even if a sufficient number of nonfarm jobs were available.

IF THERE IS UNEMPLOYMENT

If agricultural retrenchment from wartime peaks would be necessary even under the assumption of full employment, what would be the outlook in case of large-scale unemployment? It is necessary only to recall the conditions that prevailed during the period 1930-33 to visualize the serious circumstances in which agriculture would find itself. It is estimated that analogous conditions in 1950 would mean about 17 million workers unemployed and a general price level only two-thirds as high as in 1943, or two-thirds as high as the assumed price level under full employment (see table 9).

With such a drastic cut in employment and prices, national income would fall to about 57.5 billion dollars and cash income from farm marketings would be only about 6.5 billion dollars, or a little more than one-third of the estimated level under full employment. Prices received by farmers would be reduced by more than one-half and the parity ratio would fall to about 62,

or to less than two-thirds of the ratio in a full-employment situation. Compared with the decline in employment and national income, the reduction in per capita consumption of farm products might be described as moderate. This relatively much greater reduction in consumer purchasing power suggests the comparative inelasticity of the demand for farm products. It should be remembered, however, that these figures represent averages for all farm products. As was shown in table 4, the elasticity of demand for some products—notably meats, milk, fruits, and vegetables—is much higher than for others, such as cereals and potatoes. As the increase in per capita consumption of the former groups of commodities would be relatively larger under a high level of business activity and employment, just so would the decrease be correspondingly greater under depression conditions.

TABLE 9.—*Employment, prices and income, United States, averages 1935-39, 1943, and estimates for 1950 under assumed conditions.*

Item	Unit or base	Average 1935-39	1943	1950 [1]		
				Full employment	Intermediate Employment	Serious depression
Total labor force	Million	53.8	62.6	60.0	60.0	60.0
Armed forces	Million	.3	9.1	2.0	2.0	2.0
Total unemployment	Million	10.2	1.1	2.0	7.0	17.0
Total civilian employment	Million	43.3	52.4	56.0	51.0	41.0
Total agricultural employment	Million	9.3	8.3	8.0	8.5	9.0
Total non-agricultural employment	Million	34.0	44.1	48.0	42.5	32.0
Gross national product	Billion dollars	81.9	187.8	188.0	130.0	76.5
National income	Billion dollars	65.4	149.4	150.0	105.0	57.5
Wholesale prices, all commodities, index	1926	81.0	103.0	103.0	87.0	66.0
Cash income from farm marketings	Billion dollars	8.0	19.2	17.0	12.5	6.5
Net income of farm operators	Billion dollars	4.2	11.4	9.3	6.5	3.0
Prices received by farmers, index	Aug. 1909-July 1914	107.0	193.0	165.0	125.0	75.0
Prices paid, interest and taxes, index	Aug. 1909-July 1914	128.0	162.0	165.0	140.0	120.0
Parity ratio (prices received vs. prices paid)	Aug. 1909-July 1914	64.0	119.0	100.0	89.0	62.0
Food consumption, per capita, index	1935-39	100.0	106.0	118.0	110.0	100.0
Agricultural production, index	1935-39	100.0	129.0	[2]135.0	[2]125.0	[2]115.0

[1] The number of employed or unemployed is not the only factor that distinguishes any one set of conditions from the other 2 assumed for 1950. The general price level and productivity per worker change also. The "Full employment" estimates assume a minimum frictional unemployment of 2 million persons, continuation of trends in productivity per worker, and a general price level equivalent to that of 1943, with prices received by farmers adjusted to their usual relation with the general price level during 1921-41. The "Intermediate situation" assumes per capita income and prices generally at about the level of 1941. "Serious depression" assumes an income level somewhat above 1932, but below 1935-39 and prices generally about equal to the average of 1932 and 1933, but since both the labor force and productivity per worker are increasing, unemployment under this situation would be even greater than in 1932 and 1933. Population in 1950 is estimated at 144,000,000. All 3 estimates assume 2 million workers in the armed forces.

[2] Production that consumers would buy and farm families would use at the prices assumed.

The index of total agricultural production in 1943 stood at 29 percent above the 1935-39 level. It is estimated that under full employment in 1950 consumers would purchase in the market place, at the prices assumed, a total product amounting to about 35 percent more than the 1935-39 average production. In case of a serious depression and much lower prices, consumers would take only about 15 percent more than the average production in 1935-39. In connection with these estimates, it should be noted,

however, that there may be a great deal of difference between the quantities that consumers will buy at the assumed prices and the production that might actually be forthcoming, for some time at least, if agriculture should suddenly find itself confronted with serious depression. Because such a large proportion of the farmers' costs are fixed costs, actual production under these conditions might well be greater than what the market would absorb.

Furthermore, during periods of depression there would be more people working on farms than in periods of prosperity. The estimate that 9 million workers would be employed in agriculture under serious depression, or a million more than under full employment—and to produce a smaller total product—requires further explanation. A larger number would be employed, even though somewhat less efficiently, because they would have no alternative chances to work. The number might even be larger than 9 millions; and in addition to this form of underemployment a portion of the 17 million unemployed would have returned to farms because they had no other place to go.

These national averages of estimated production and employment conceal many important regional differences. For example, production would be reduced much more in the fruit and vegetable areas than in other areas; and, after making allowance for the so-called livestock cycles, production of livestock products would be reduced more than that of such crops as wheat and cotton. Aggravating an already serious maladjustment between population and resources, migration of unemployed industrial workers from cities to farms would be much more pronounced in the Appalachians, the Ozarks, and the southeastern Cotton Belt than in other regions.

The decline in prices and incomes would be accentuated by a decline in international trade. Imports of agricultural products and of all goods (as well as payments for services) would probably decline rather sharply. This would mean a reduction in dollars with which foreigners could buy American products; hence it would mean a decrease both of total exports and agricultural exports. Indeed, agriculture under these conditions would be in a sorry plight. Producers for the export market (especially cotton, wheat, and tobacco farmers) would be in a particularly bad situation.

If Seven Million Are Unemployed

Some will insist that, long before such a depressed situation would ever be reached, vigorous governmental action would have been taken to stop the downward spiral and that for this reason the contrast between the possible position of agriculture under full employment and what it might be with 17 million unemployed is unrealistic. For them, additional estimates have been made to show agriculture's possible situation under moderate unemployment. Moderate unemployment for 1950 was assumed to mean about 7 million workers out of a job, which is about the same proportion of the total labor force as was unemployed

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in 1941. Assuming further that the wholesale price level would be the same as it was in 1941, or about 15 percent below the 1943 level, the national income would be about 105 billion dollars, or 45 billion dollars less than was estimated for full employment. (See table 9.) The index of prices received by farmers would fall from 165 to 125, and the parity ratio would decline from around 100 to about 89 percent.

Because of the decline in consumer purchasing power, per capita food consumption would stand at about 10 percent above the 1935-39 average, as compared with 18 percent above this average under full employment. Agricultural exports would amount to approximately 750 million dollars, or about two-thirds of what might be expected under full employment. Total cash income from farm marketings would be about 12.5 billions, as compared with 17 billions under full employment. Thus, even though the parity ratio would fall only a little more than 10 percent, the number of dollars farmers would receive would decline about 30 percent.

With this amount of unemployment it is reasonable to assume that agricultural technology would improve at a lesser rate than under full employment. If the rate of improvement is arbitrarily assumed to be one-half the rate estimated under full employment, the number of acres of cropland that would be required to meet domestic and foreign demand would be a little more than 324 million acres, or only about 2.6 millions less than the number required under full employment. In other words, the decrease in the rate of technological improvement would almost offset the reduction in domestic consumption and exports. But if it should be assumed that the rate of technological improvement under moderate unemployment would be essentially the same as under full employment, the number of acres required would decline an additional 20 million, making the gap between the 1943 acreage and the required acreage in 1950 about 45 million acres. Soil conservationists say that at least 40 million acres should be taken out of cultivated crops as soon as possible for the sake of the land itself. This should be considered in making any acreage reductions.

SUMMARY

What peace can mean to American farmers depends more on the level of business activity and nonfarm employment that can be maintained after the war than upon anything else. With a general price level about the same as in 1943 and with no more than 2 million workers "frictionally" unemployed, the national income, after reconversion—or about the year 1950—would stand at approximately 150 billion dollars; and a sustained export outlet could be maintained for about 6 billion dollars' worth of American goods—almost 20 percent or 1.2 billion dollars' worth of which would be agricultural products. This could be done with a moderate degree of international collaboration.

Under these circumstances, and without any governmental programs to support farm prices or to induce changes in farm

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production, the prices for farm products on the average would stand at about parity, compared with 119 percent of parity in 1943. Cash income from farm marketings would amount to about 17 billions, or only about 2 billions less than in 1943. Some farm prices, however, would be substantially lower than others, as compared with recent wartime levels.

With current technology, the cropland needed to meet requirements in 1950 under full employment would be some 18.6 million acres more than were used in 1943. Allowing, however, for moderate improvements in technology between now and 1950, all the products required to meet foreign and domestic demand at that time under conditions of full employment could be produced on 327 million acres of cropland or about 23 million acres less than was used in 1943. This suggests the possibility that agricultural production generally might outrun demand even under full employment.

A Government program to supplement the diets of low-income people would provide an outlet for the product of additional cropland totaling about 5 million acres.

Should unemployment reach such a huge total as 17 millions, a level for 1950 comparable to that reached in the early thirties, the national income would be hardly more than one-third of what it would be under full employment, and agriculture would be prostrate again—as it was then.

Even conditions under which 7 millions of the 60 million workers were out of work would create great difficulties for agriculture. Farm income would fall to two-thirds of what it would be under full employment, the average level of farm prices would be only three-fourths as high, and the parity ratio for average farm prices would stand at less than 90 percent.

The net conclusion from all this is that with full employment the post-war adjustments required in agriculture will be manageable but that the difficulties will multiply as the number of unemployed is increased.

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